

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,049,761 B2
APPLICATION NO. : 09/782375
DATED : May 23, 2006
INVENTOR(S) : Memduh Guney et al.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Delete the title page and substitute therefor the attached title page.

Delete Drawings Sheets 1-10 and substitute therefor the attached Drawings Sheets 1-10.

Column 5, Line 63; In claim 1, delete "circuit," and insert -- circuit; --, therefor.

Column 5, Line 64; In claim 1, delete "an" and insert -- on --, therefor.

Column 6, Line 1; In claim 2, delete "tube" and insert -- device --, therefor.

Column 6, Line 4; In claim 2, delete "first" and insert -- pair --, therefor.

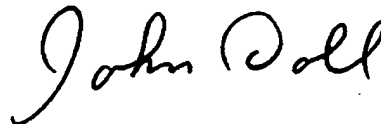
Column 6, Line 51; In claim 10, delete "illumination" and insert -- illuminating --, therefor.

Column 8, Line 3; In claim 19, delete "a" and insert -- an --, therefor.

Column 8, Line 3; In claim 19, delete "envelope," and insert -- envelope; --, therefor.

Signed and Sealed this

Twenty-sixth Day of May, 2009



JOHN DOLL
Acting Director of the United States Patent and Trademark Office

(12) **United States Patent**
Timmermans et al.

(10) Patent No.: **US 7,049,761 B2**
 (45) Date of Patent: **May 23, 2006**

(54) **LIGHT TUBE AND POWER SUPPLY CIRCUIT**

(75) Inventors: **Jos Timmermans, Dearborn, MI (US);
 Jean C. Raymond, Montreal (CA)**

(73) Assignee: **Altair Engineering, Inc., Troy, MI (US)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 375 days.

(21) Appl. No.: **09/782,375**

(22) Filed: **Feb. 12, 2001**

(65) **Prior Publication Data**

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Related U.S. Application Data

(60) Provisional application No. 60/181,744, filed on Feb. 11, 2000.

(51) Int. Cl. **H05B-37/02** (2006.01)

(52) U.S. Cl. **315/246; 315/291; 315/185 S**

(58) Field of Classification Search **315/146, 315/291, 185 S, 312, 324, 192, 185 R, 295, 315/246, 187, 294, 56, 200 A, 61; 340/815.45; 362/488, 240, 219, 800, 369, 545, 288, 249**
 See application file for complete search history.

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Primary Examiner—Wilson Lee

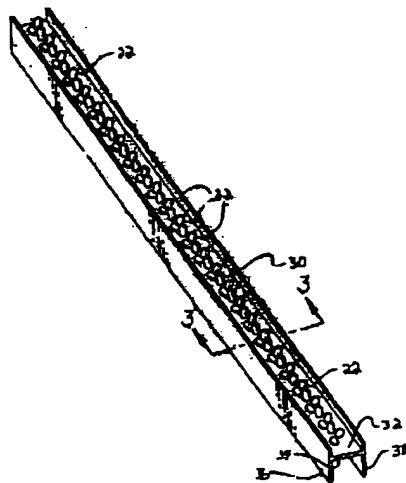
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(57) **ABSTRACT**

The present invention provides a light tube for illumination by a power supply circuit including a bulb portion and a pair of end caps disposed at opposite ends of the bulb portion. A plurality of light emitting diodes are disposed inside the bulb portion and in electrical communication with the pair of end caps for illuminating in response to electrical current to be received from the power supply circuit.

26 Claims, 10 Drawing Sheets

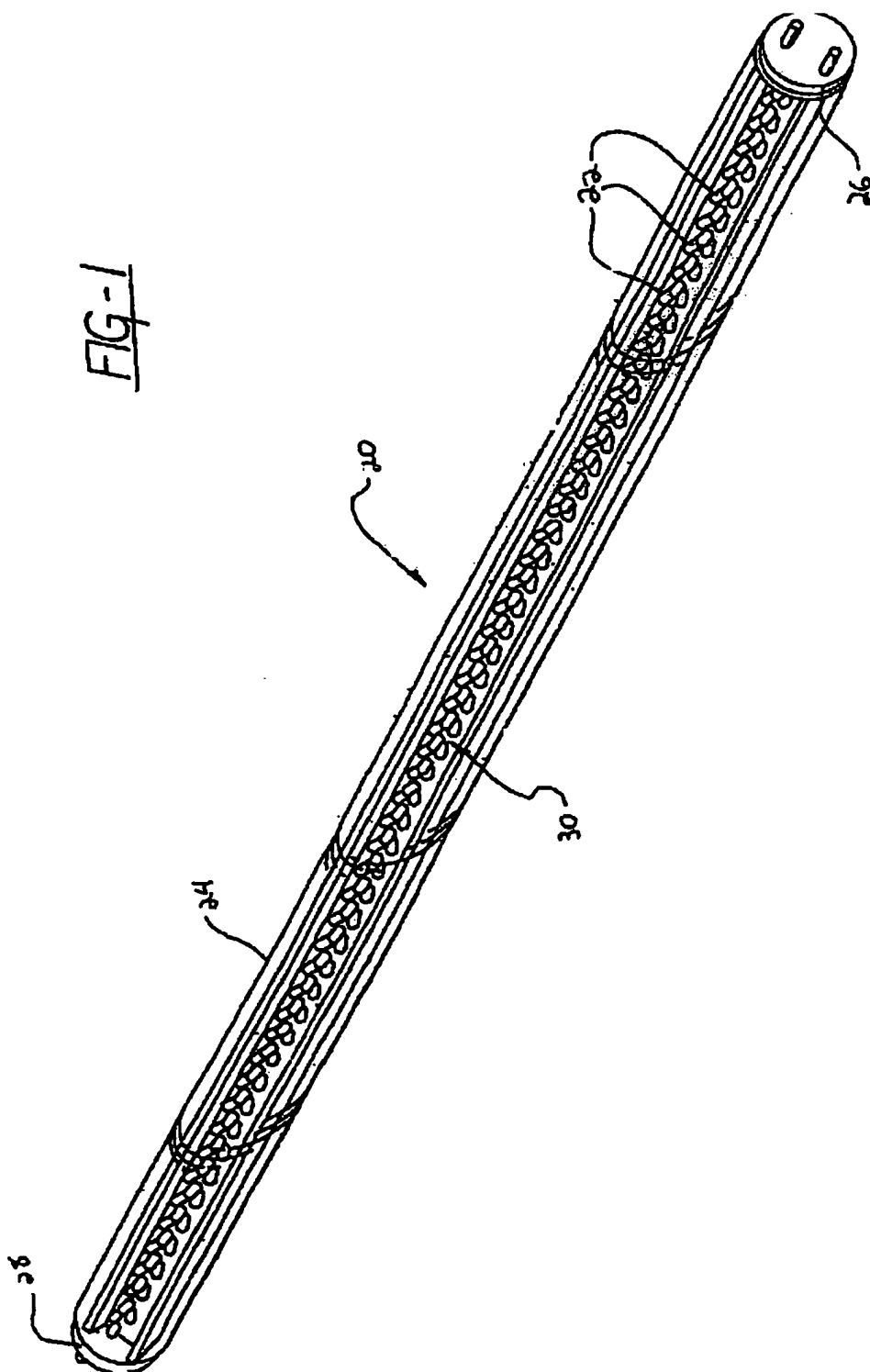


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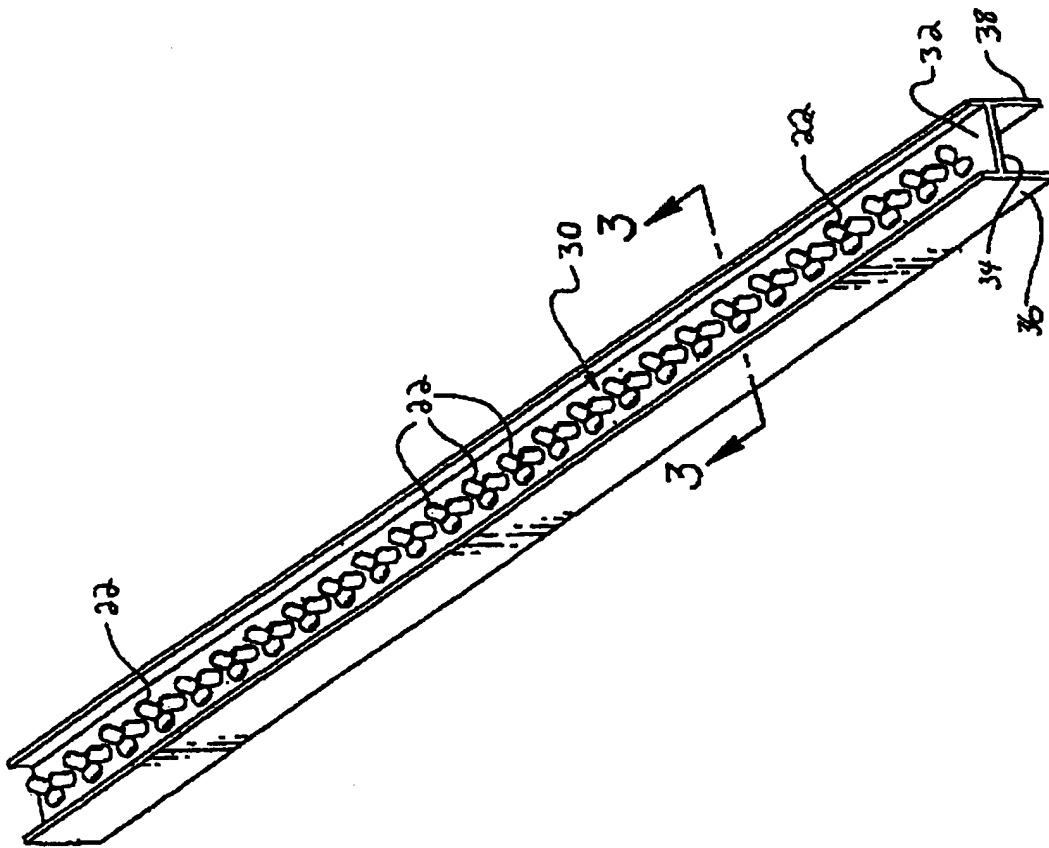


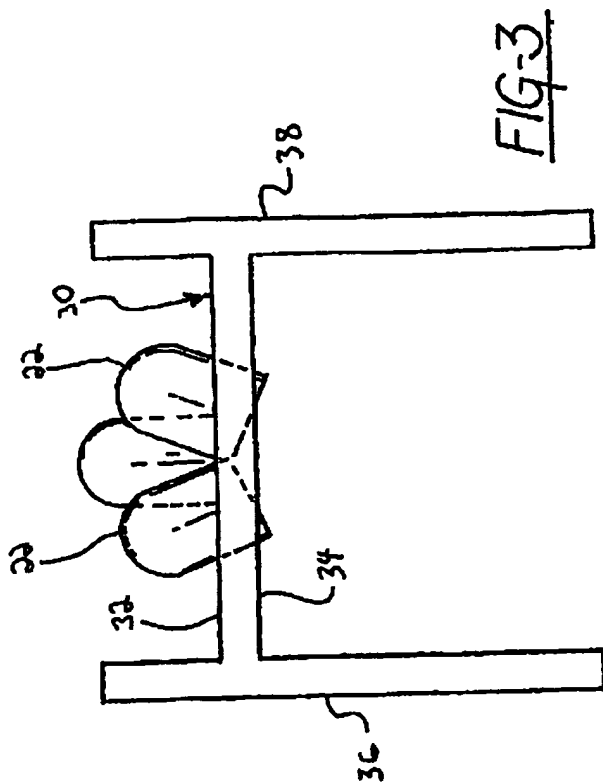
FIG-2

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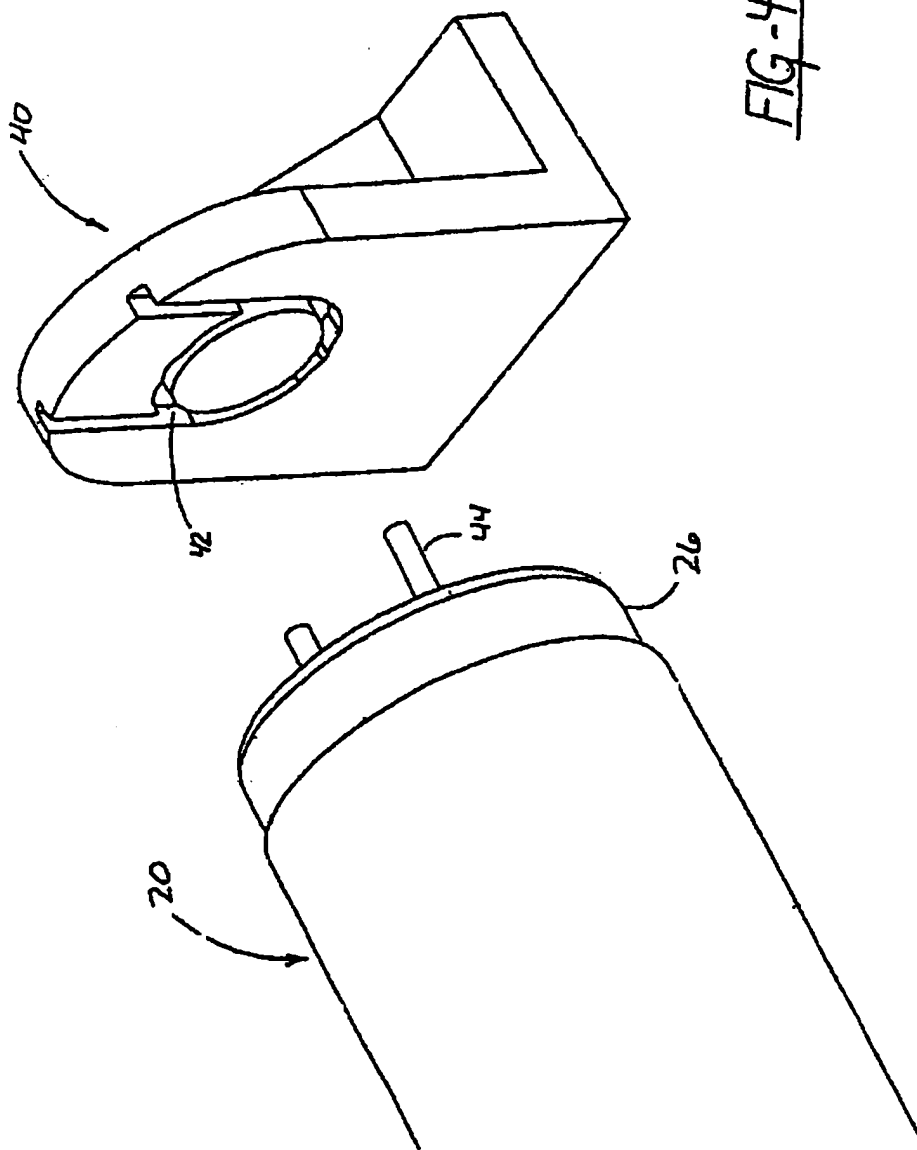


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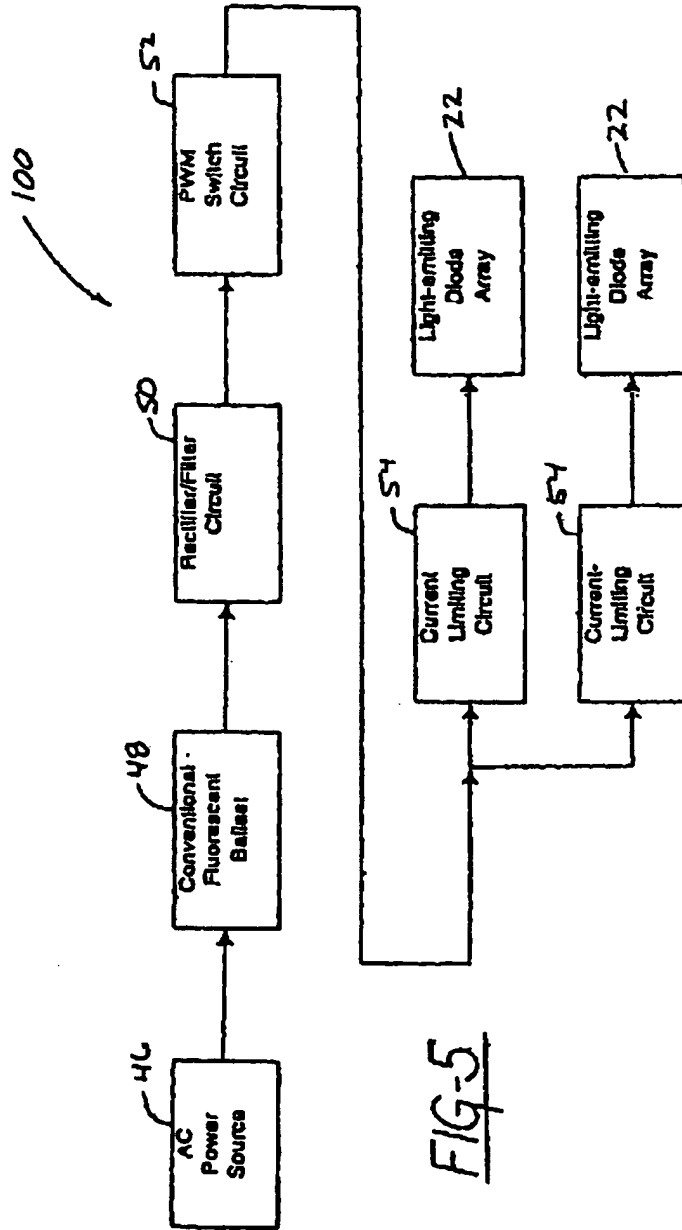


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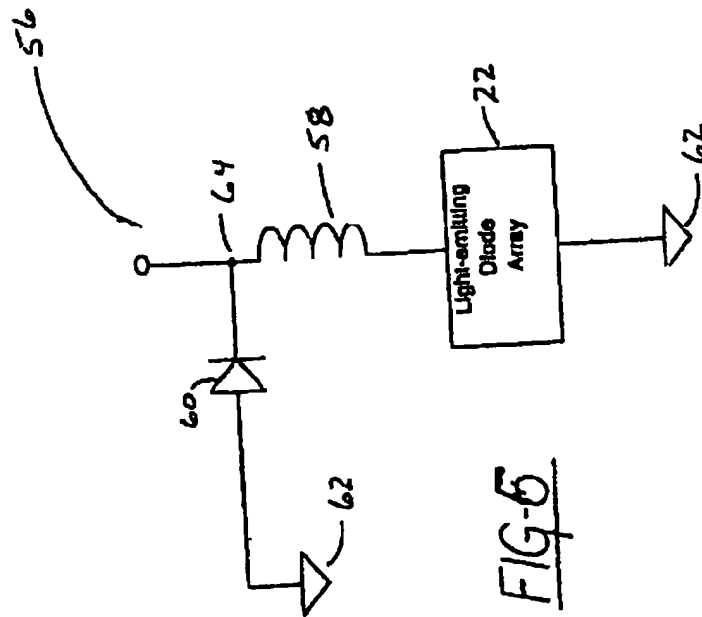


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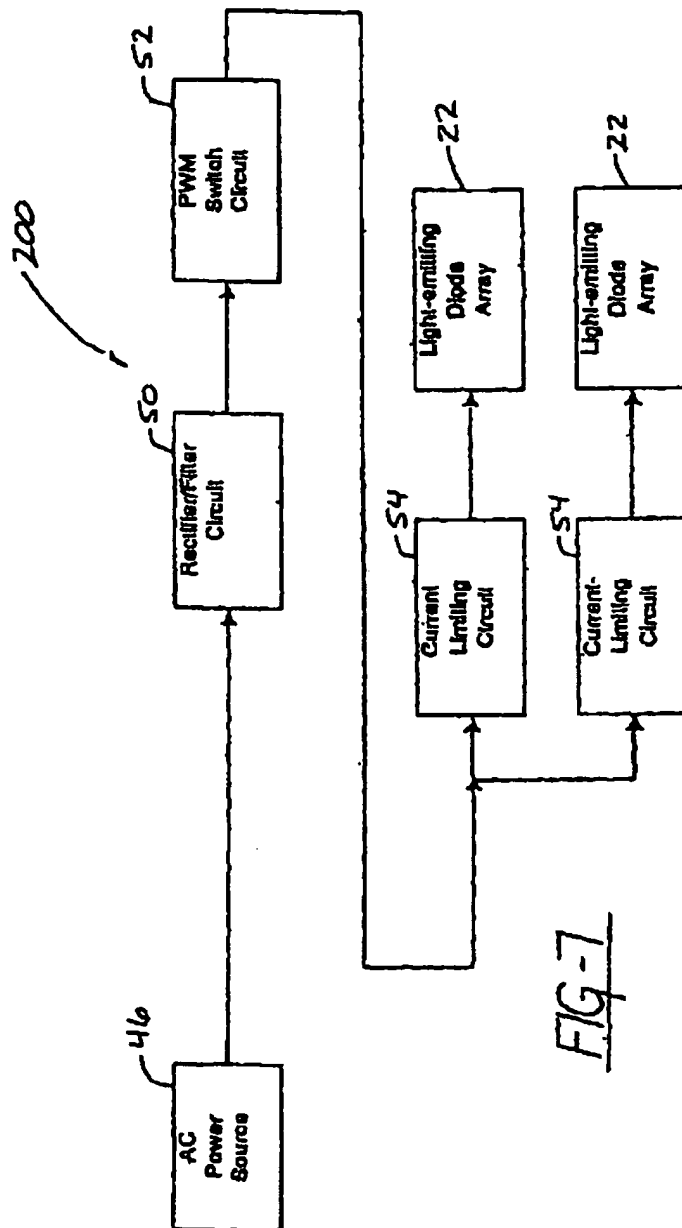


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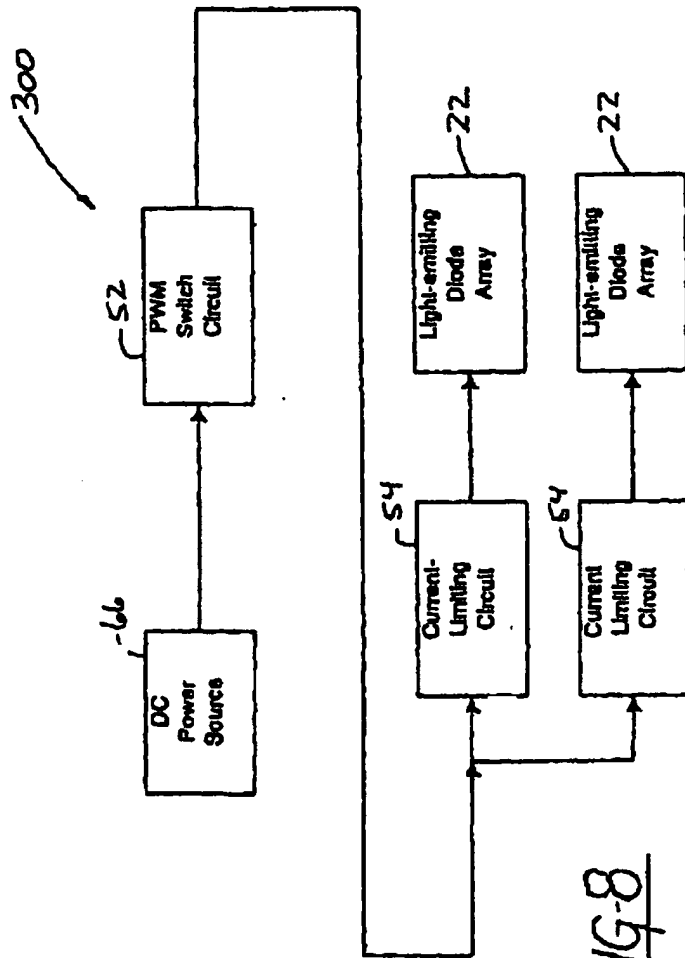


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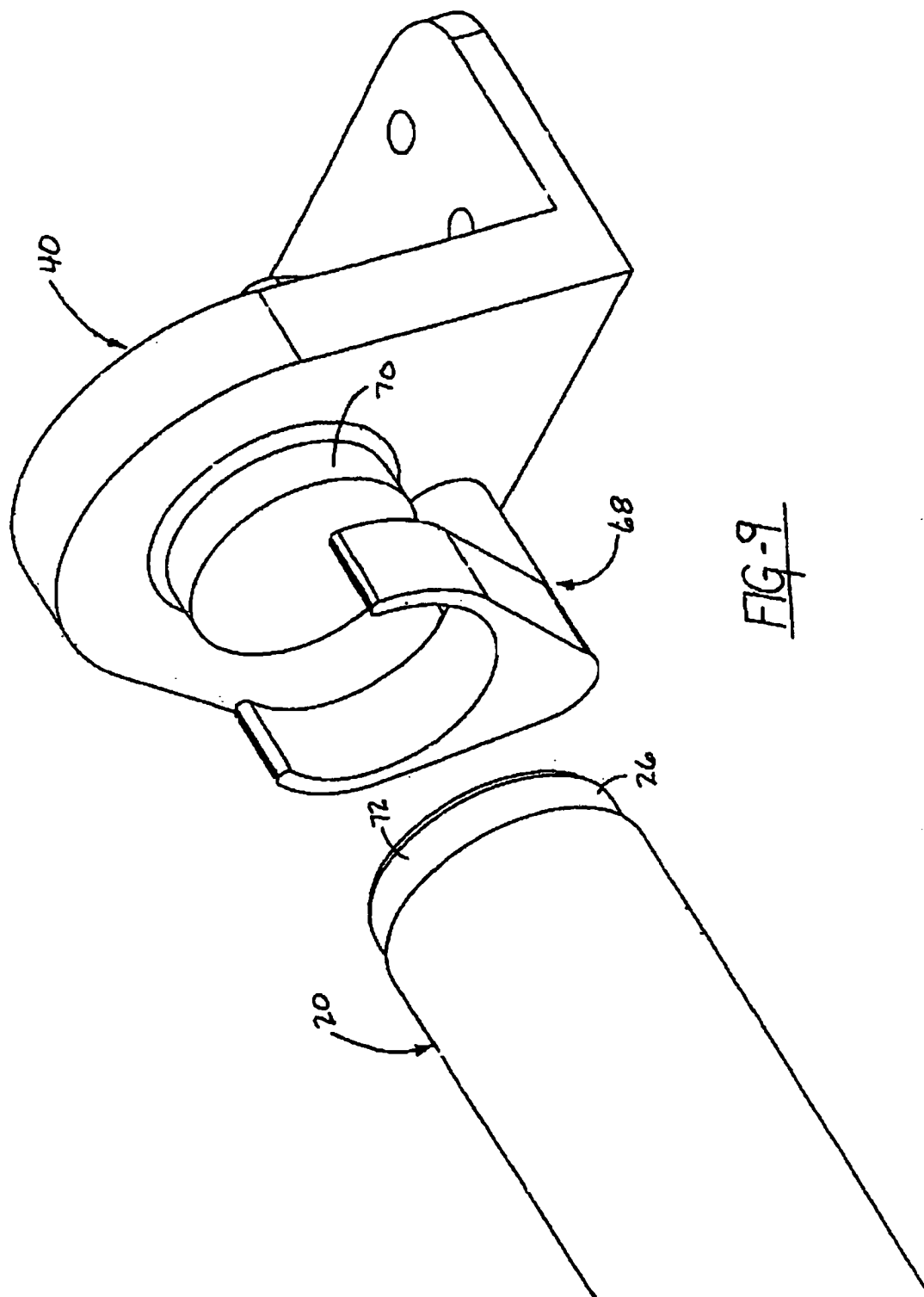
FIG-8

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